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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/761,208	01/16/2001	Winston W. Hodge	COAX 01.002	9082
7590	03/22/2005		EXAMINER BELIVEAU, SCOTT E	
Michael A. Kerr P.O. Box 2345 Stateline, NV 89449			ART UNIT 2614	PAPER NUMBER

DATE MAILED: 03/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/761,208

Applicant(s)

HODGE ET AL. 

Examiner

Scott Beliveau

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 January 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>10/27/03</u> . | 6) <input type="checkbox"/> Other: ____.  |

## **DETAILED ACTION**

### ***Priority***

1. Applicant's claim for domestic priority under 35 U.S.C. 119(e) is acknowledged.

However, the provisional application upon which priority is claimed fails to provide adequate support under 35 U.S.C. 112 for claims 1-28 of this application. In particular, the instant application is directed towards and claims subject matter pertaining to a digital headend that facilitates internal/external communications through a common shared bus and further serves to buffer of video, data and voice signals for distribution over the common bus. The examiner cannot find any reference to the particular usage of buffering video, data, and voice signals in connection with a common shared bus in the earlier filling (09/162,313).

Accordingly, the claims of the instant application shall not receive the priority of the earlier filling and shall be examined based upon the filling of the instant application or 16 January 2001.

### ***Drawings***

2. The drawings are objected to because of the following informalities:
  - The numbering of elements and corresponding text labels in Figure 2 and the corresponding description of these elements is improper. In particular, the specification references element "60" as an "upconverter" (IA: Page 11, Line 16), however the label associated with element "60" designates it as "VOIP", element "62" in Figure 2 is labeled as the "upconverter" however the specification references it as a an "IP router", and element "64" is designated as an "IP router"

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in Figure 2, but referenced in the specification as the “LAN switch” (IA: Page 11, Line 16). This situation may be rectified by either an appropriate correction to the specification or drawings.

- The labels for the “Multi-port Smart NIW” are inconsistent with the reference to the “Multi-port Smart NIM” components within the specification.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: “66” (Figure 2) and “140” (Figure 4). Corrected drawing sheets in compliance with 37 CFR 1.121(d), or

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amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

4. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: "120" and "122" (IA: Page 13, Line 13). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

*Specification*

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5. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

6. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

7. The disclosure is objected to because the reference to element "network operations center (NOC) 104" (IA: Page 15, Line 14) should be amended to reference element "network operations center (NOC) 102" and "downstream combiner 178" (IA: Page 24, Line 3) should be amended to reference "downstream combiner 172" in order to be consistent with prior numbering of this element. Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

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8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

9. Claims 1, 7, 13, and 19 are rejected under 35 U.S.C. 102(e) as being anticipated by Masucci et al. (US Pat No. 6,498,667).

In consideration of claim 1, Figure 1 of the Masucci et al. reference illustrates a method for “combining a plurality of digital video signals, a plurality of digital data signals, and a plurality of upstream communications in a digital headend” [12] (Col 1, Lines 34-36; Col 3, Lines 46-69). As illustrated in Figure 2, the “digital headend” [12] “provides a video interface” [116] “for receiving said plurality of digital video signals within said digital headend”, a “data interface” [116] for “receiving said plurality of digital data signals within said digital headend”, and an “upstream communications interface for receiving said plurality of upstream communications within said digital headend” [116] transmitted upstream by the remote terminals [14] (Col 1, Lines 34-36). The system subsequently queues or “buffers said plurality of digital video signals [and] generates a buffered plurality of digital video signals” [110] and queues or “buffers said plurality of digital data signals [and] generates a buffered plurality of digital data signals” [110], which are subsequently “communicated . . . across a common shared bus” [16] along with “said plurality of upstream communications” transmitted upstream by the remote terminals [14] (Col 5, Lines 33-41; Col 7, Lines 13-30). The particular network topology illustrated in Figure 1 of Masucci et al. is commonly

recognized as a bus topology that is commonly shared by the connected downstream terminals in order to support packetized high-speed serial communications between the remote terminals [14] and the headend [12]. Accordingly, such is interpreted as meeting the claimed limitation of a “common shared bus”.

In consideration of claim 7, Figure 1 of the Masucci et al. reference illustrates a method for “combining a plurality of digital data signals, a plurality of digital voice signals, and a plurality of upstream communications in a digital headend” [12] (Col 1, Lines 34-36; Col 3, Lines 46-69). As illustrated in Figure 2, the “digital headend” [12] “provides a data interface” [116] “for receiving said plurality of digital data signals within said digital headend”, a “voice interface” [116] for “receiving said plurality of digital voice signals within said digital headend”, and an “upstream communications interface for receiving said plurality of upstream communications within said digital headend” [116] derived from the remote terminals [14] (Col 1, Lines 34-36). The system subsequently queues or “buffers said plurality of digital data signals [and] generates a buffered plurality of digital data signals” [110] and queues or “buffers said plurality of digital voice signals [and] generates a buffered plurality of digital voice signals” [110], which are subsequently “communicated . . . across a common shared bus” [16] along with “said plurality of upstream communications” transmitted by the remote terminals [14] (Col 5, Lines 33-41; Col 7, Lines 13-30).

In consideration of claim 13, Figure 1 of the Masucci et al. reference illustrates a method for “combining a plurality of digital video signals, a plurality of digital voice signals, and a plurality of upstream communications in a digital headend” [12] (Col 1, Lines 34-36; Col 3, Lines 46-69). As illustrated in Figure 2, the “digital headend” [12] “provides a video



interface” [116] “for receiving said plurality of digital video signals within said digital headend”, a “voice interface” [116] for “receiving said plurality of digital voice signals within said digital headend”, and an “upstream communications interface for receiving said plurality of upstream communications within said digital headend” [116] derived from the remote terminals [14] (Col 1, Lines 34-36). The system subsequently queues or “buffers said plurality of digital video signals [and] generates a buffered plurality of digital video signals” [110] and queues or “buffers said plurality of digital voice signals [and] generates a buffered plurality of digital voice signals” [110], which are subsequently “communicated . . . across a common shared bus” [16] along with “said plurality of upstream communications” transmitted by the remote terminals [14] (Col 5, Lines 33-41; Col 7, Lines 13-30).

In consideration of claim 19, Figure 1 of the Masucci et al. reference illustrates a method for “combining a plurality of digital video signals, a plurality of digital data signals, a plurality of digital voice signals, and a plurality of upstream communications in a digital headend” [12] (Col 1, Lines 34-36; Col 3, Lines 46-69). As illustrated in Figure 2, the “digital headend” [12] “provides a video interface” [116] “for receiving said plurality of digital video signals within said digital headend”, a “data interface” [116] for “receiving said plurality of digital data signals within said digital headend”, a “voice interface” [116] for “receiving said plurality of digital voice signals within said digital headend”, and an “upstream communications interface for receiving said plurality of upstream communications within said digital headend” [116] derived from the remote terminals [14] (Col 1, Lines 34-36). The system subsequently queues or “buffers said plurality of data video signals [and] generates a buffered plurality of digital video signals” [110], queues or “buffers said plurality

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of digital data signals [and] generates a buffered plurality of digital data signals” [110], and queues or “buffers said plurality of digital voice signals [and] generates a buffered plurality of digital voice signals” [110], which are subsequently “communicated . . . across a common shared bus” [16] along with “said plurality of upstream communications” transmitted by the remote terminals [14] (Col 5, Lines 33-41; Col 7, Lines 13-30).

***Claim Rejections - 35 USC § 103***

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).
12. Claims 2-6, 8-12, 14-18, and 20-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Masucci et al. (US Pat No. 6,498,667) in view of Humpleman (US Pat No. 5,940,387).

In consideration of claims 2, 8, 14, and 20, the reference discloses that “said plurality of upstream communications” are generated using remote customer terminals that subsequently output the received signal in the required customer format (Col 1, Line 6-13; Col 4, Lines 23-33; Col 4, Lin 65 – Col 5, Line 1). It is unclear, however, if the remote customer terminals [14] are equivalent to a “set top box” or are further interconnected to a “set top box” in order to facilitate the presentation of the received video signals. In a related art pertaining to distribution of video, telephony, and data, the Humpleman reference provides evidence that it is known to interconnect a “set top box” [40] to an in-home Ethernet network, which supports the aforementioned video, telephony, and data services, wherein the “set top box” [40] “generates said plurality of upstream communications” (Col 10, Line 62 – Col 10, Line 11). Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made so as to modify the Masucci et al. reference so as to particularly utilize a “set top box” [40] interconnected to the remote terminal [14] for inherent advantages associated with the particular usage of a “set top box” in an interactive video distribution system as well as for the purpose of advantageously providing a means so as to facilitate the selection, presentation, and delivery of a wide range of external services within a home digital network (Humpleman: Col 1, Line 23-39).

Claims 3, 9, 15, and 21 are rejected wherein the system further comprises “generating said plurality of upstream communication with a distribution system” [10] (Masucci et al.: Col 3, Lines 29-45).

Claims 4, 10, 16, and 22, are rejected wherein the system further “optimizes communications” by prioritizing data to/from the common shared bus [16] “for said buffered

plurality of digital video signals, said buffered plurality of digital data signals, and said plurality of upstream communications across said common shared bus” (Masucci et al.: Col 5, Lines 54-56).

In consideration of claims 5, 17, and 23, the method comprises “digitally processing said plurality of digital video signals” [108] “prior to buffering said plurality of digital video signals” [110] when communicating in the downstream direction towards the remote terminals [14] (Masucci et al.: Figure 2).

In consideration of claims 6, 11, and 24, the method comprises “digitally processing said plurality of digital data signals” [108] “prior to buffering said plurality of digital data signals” [110] when communicating in the downstream direction towards the remote terminals [14] (Masucci et al.: Figure 2).

In consideration of claims 12, 18, and 25, the method comprises “digitally processing said plurality of digital voice signals” [108] “prior to buffering said plurality of digital voice signals” [110] when communicating in the downstream direction towards the remote terminals [14] (Masucci et al.: Figure 2).

In consideration of claim 26, Figure 1 of the Masucci et al. reference illustrates a method for “combining a plurality of digital video signals, a plurality of digital data signals, a plurality of digital voice signals, and a plurality of upstream communications in a digital headend” [12] (Col 1, Lines 34-36; Col 3, Lines 46-69). As illustrated in Figure 2, the “digital headend” [12] “provides a video interface” [116] “for receiving said plurality of digital video signals within said digital headend”, a “data interface” [116] for “receiving said plurality of digital data signals within said digital headend”, a “voice interface” [116] for

“receiving said plurality of digital voice signals within said digital headend”, and an “upstream communications interface for receiving said plurality of upstream communications” [116] “transmitted by the remote terminals [14] (Col 1, Lines 34-36). The system “digitally processing said plurality of digital video signals” [108], “digitally processing said plurality of digital data signals” [108] and “digitally processing said plurality of digital voice signals” [108] (Masucci et al.: Figure 2) and subsequently queues or “buffers said plurality of data video signals [and] generates a buffered plurality of digital video signals” [110], queues or “buffers said plurality of digital data signals [and] generates a buffered plurality of digital data signals” [110], and queues or “buffers said plurality of digital voice signals [and] generates a buffered plurality of digital voice signals” [110]. The aforementioned buffered data signals and “upstream communications” are “communicated . . . across a common shared bus” [16] so as to permit the communication of data to/from the terminals [14] to the headend [12] (Col 5, Lines 33-41; Col 7, Lines 13-30).

With respect to the limitation such that the “plurality of upstream communications are generated by at least one set-top box”, as aforementioned, it is unclear if the remote customer terminals [14] of Masucci et al. are equivalent to a “set top box” or are further interconnected to a “set top box” in order to facilitate the presentation of the received video signals. In a related art pertaining to distribution of video, telephony, and data, the Humpleman reference discloses that the particular usage of interconnecting a “set top box” [40] to an in-home Ethernet network wherein the “set top box” [40] “generates said plurality of upstream communications” (Col 10, Line 62 – Col 10, Line 11). Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made so as to

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modify the Masucci et al. reference so as to particularly utilize a “set top box” [40] interconnected to the remote terminal [14] for inherent advantages associated with the particular usage of a “set top box” in an interactive video distribution system as well as for the purpose of advantageously provide a means so as to facilitate the selection, presentation, and delivery of a wide range of external services within a home digital network (Humpleman: Col 1, Line 23-39).

Claim 27 is rejected wherein the system further “optimizes communications” by prioritizing data to/from the common shared bus [16] “for said buffered plurality of digital video signals, said buffered plurality of digital data signals, and said plurality of upstream communications across said common shared bus” (Masucci et al.: Col 5, Lines 54-56).

Claim 28 is rejected wherein the system further comprises “generating said plurality of upstream communication with a distribution system” [10] (Masucci et al.: Col 3, Lines 29-45).

### *Conclusion*

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure as follows. Applicant is reminded that in amending in response to a rejection of claims, the patentable novelty must be clearly shown in view of the state of the art disclosed by the references cited and the objections made.

- The Adams et al. (US Pat No. 6,124,878) reference discloses a full-service network which employs data buffering.

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- The Beveridge (US Pat No. 5,615,246) reference provides evidence of the common knowledge recognition of a bus network topology (Figures 2A/B) in a fiber distribution system.
- The Booth et al. (US Pat No. 5,835,533) reference provides evidence of it being commonly known that a cable distribution network is recognized as a common bus.
- The Craven et al. (US Pub No. 2003/0014757 A1) discloses a multi-dwelling unit “digital headend” which utilizes a common shared bus or back plane to interconnect video, voice, and data modules. This reference, does not currently qualify as prior art under 35 U.S.C. 102.
- The Byers et al. (US Pat No. 5,781,320) illustrates a network hub which utilizes a common bus and a plurality of video, voice, and data.
- The Stalley et al. (US Pat No. 5,479,286) reference discloses a passive optical fiber communication system which supports video, voice, and data services.
- The Foltan et al. (US Pat No. 6,667,972) reference discloses a method and apparatus for providing multi-service connections within a data communications device.
- The McCalley et al. (US Pat No. 5,113,496) reference discloses a bus interconnection structure with redundancy linking between groups of processors with servers for each group mounted on chassis.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Scott Beliveau whose telephone number is 571-272-7343.

The examiner can normally be reached on Monday-Friday from 8:30 a.m. - 6:00 p.m..

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John W. Miller can be reached on 571-272-7353. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



SEB

March 18, 2005